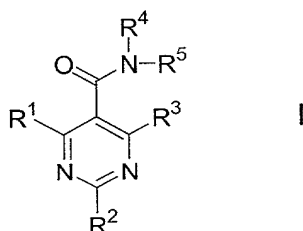


CLAIMS

We claim:

- 5 1. A method for the treatment of disorders responsive to opening of the KCNQ potassium channels in a mammal in need thereof, which comprises administering to said mammal a therapeutically effective amount of a compound of Formula I



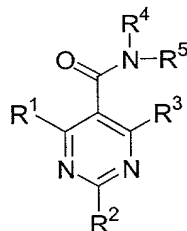
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wherein

- R^1 is selected from hydrogen, halogen, C_{1-8} alkyl, phenyl, phenylalkyl, C_{3-6} heterocyclic, C_{3-6} heterocyclicmethyl, -CN, -OR, -NRR, -NRNCOR or -CF₃;
- 15 R^2 is selected from halogen, C_{1-8} alkyl, C_{3-7} cycloalkyl, phenyl, phenylalkyl, C_{3-6} heterocyclic, C_{3-6} heterocyclicmethyl, -CN, -OR, -NRR, -NRNCOR or -S-R;
- R^3 is selected from hydrogen, halogen or C_{1-8} alkyl;
- R^4 is selected from hydrogen, -CH₃ or -CH₂C₆H₅;
- 20 R^5 is selected from hydrogen, C_{1-8} alkyl, C_{3-7} cycloalkyl, phenyl, phenylalkyl, C_{3-6} heterocyclic or C_{3-6} heterocyclicmethyl;
- wherein each occurrence of R is independently selected from the group consisting of C_{1-8} alkyl, C_{3-7} alkynyl, phenyl, phenylalkyl, C_{3-6} heterocyclic and C_{3-6} heterocyclicmethyl.

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2. The method of claim 1 wherein the compound of Formula I is selected from a compound having the structure



wherein

R¹ is hydrogen;

R² is selected from the group consisting of NR⁶R⁷, SR⁸, OR⁹, phenyl, and

5 thienyl; in which said phenyl is optionally substituted with one or two C₁₋₃alkoxy groups;

R³ is selected from the group consisting of C₁₋₆alkyl, trifluoromethyl, C₃₋₇cycloalkyl, C₃₋₇cycloalkylmethyl, phenyl, amino, di(C₁₋₃alkyl)amino and pyrrolidinyl; in which said phenyl is optionally substituted with a halogen;

10 R⁴ is selected from the group consisting of phenylmethyl, furanylmethyl, and C₃₋₇cycloalkylmethyl; in which the phenyl of said phenylmethyl is optionally substituted with one substituent selected from the group consisting of halogen, C₁₋₃alkyl, di(C₁₋₃alkyl)amino, trifluoromethyl, trifluoromethoxy, and trifluoromethylthio; and in which the furanyl of said furanylmethyl is optionally substituted with a C₁₋₃alkyl group;

R⁵ is hydrogen;

20 R⁶ and R⁷ are each independently selected from the group consisting of hydrogen, C₁₋₆alkyl, C₃₋₇cycloalkyl, C₃₋₇alkynyl, phenyl, and phenylmethyl; in which said C₁₋₆alkyl is optionally substituted with a hydroxy group and in which said phenyl is optionally substituted with one or two substituents selected from the group consisting of halogen, trifluoromethoxy, and nitro; or R⁶ and R⁷ taken together with the nitrogen to which they are attached form a heterocyclic ring selected from the group consisting of pyrrolidinyl, morpholinyl, piperidinyl, homopiperidinyl, methylpiperidinyl, and 1,2,3,4-tetrahydroisoquinolinyl;

R⁸ is selected from the group consisting of C₁₋₆alkyl, C₃₋₇cycloalkyl, phenyl, phenylmethyl, furanylmethyl, and thienyl; in which said phenyl is optionally substituted with one halogen or nitro group; and
5 wherein the phenyl of said phenylmethyl is optionally substituted with one halogen or C₁₋₃alkyl group; and

R⁹ is selected from the group consisting of C₃₋₇alkynyl, phenyl, 1-(4-fluorophenyl)ethyl, and thienylmethyl; in which said phenyl is optionally substituted with a halogen or C₁₋₃alkoxy group.

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3. The method of claim 1 wherein said disorder is migraine or migraine-like attack.

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4. The method of claim 2 wherein said disorder is migraine or migraine-like attack.

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5. A pharmaceutical composition for the treatment of disorders responsive to opening of KCNQ potassium channels comprising a therapeutically effective amount of the compound of claim 1 in association with a pharmaceutically acceptable carrier, adjuvant or diluent.

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6. A pharmaceutical composition for the treatment of disorders responsive to opening of KCNQ potassium channels comprising a therapeutically effective amount of the compound of claim 2 in association with a pharmaceutically acceptable carrier, adjuvant or diluent.